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DISSOTREMA SYNONYMOUS WITH GYLIAUCHEN

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In a recently published paper (Goto and Matsudaira, 1918) I described jointly with the late Mr. Matsudaira an amphistomatid parasite as a new genus and species under the name of *Dissotrema papillatum.* A search of some further literature to which I was able to gain access later showed, however, that a worm had been described by Nicoll in 1915 under the name of *Gyliauchen tacharodes,* with which my species presents so many points of close resemblance that the two should be placed in the same genus. Dissotrema therefore becomes by the rule of priority a synonym of Gyliauchen.

Gyliauchen tacharodes was found in considerable numbers in the intestine of a pilot fish (*Tachysurus* n. sp.). The body measured 2.6 to 3.5 mm. in length, was elongated, moderately plump and somewhat pointed at both ends. Cuticula entirely smooth. Oral sucker globular, sub-terminal, 0.24 to 0.26 mm. in diameter; posterior sucker almost at the end of the body, somewhat elongated, 0.50 by 0.47 mm. Prepharynx extraordinarily long, passing down on the right side of the body to the level of the pharynx, where it bends at right angles and passes over to the left side of the body; here it again bends at right angles and proceeds toward the front end of the body, but again bends abruptly backward about midway between the oral sucker and the pharynx and proceeds along the median line of the body to join the pharynx. This extremely muscular organ is 0.28 to 0.35 mm. by 0.23 to 0.27 mm. in size and lies between the first and second third of the body. Intestinal caeca arising directly from the pharynx, short, widely dilated, somewhat horse-shoe shaped, terminating at the level of the ovary, about two fifths of the body length from the posterior end. Genital aperture median, just behind the intestinal bifurcation, some distance in front of the middle of the body; cirrus pouch stout, muscular, ovoid, 0.35 by 0.25 mm. in size, enclosing an almost globular pars prostatica of moderate size and a rather wide ductus; vesicula seminalis L-shaped with the lower limb directed toward the right, immediately following the pars prostatica, considerably larger than the cirrus pouch; testes usually in an oblique pair, a little in front of the acetabulum, usually overlapping a little, almost globular, 0.3 mm. in diameter. Receptaculum seminis globular, nearly as large as the testes, immediately in front of them and in the left half of the body; ovary much smaller than the receptaculum seminis, immediately in front of it but more toward the median line of the body, usually almost contiguous with the vesicula seminalis. Vitellarium rather scattered and irregular, situated for the most part laterally over the intestinal ceca, not extending beyond the latter posteriorly but anteriorly reaching a little in front of the pharynx; follicles small; yolk ducts running down from the posterior end of the vitellarium on each side, passing round the outer edges of the testes and then turning forward to unite between the testes. Uterus containing very few ova, which are light yellow in color and 78 to 84 by 45 to 49μ in size. No statement is made about the excretory or the lymph system.

A comparison of the two species *tacharodes* and *papillatus* enables me to formulate the generic diagnosis more accurately than was possible in my former paper.

Genus Gyliauchen. Body plump, lightly attenuated at the front end, broader and more rounded at the hind end. Cuticula smooth. Oral sucker globular or ellipsoidal, close to anterior end; acetabulum subterminal, opening on the ventral surface by a longitudinally elongated aperture. Genital opening in the ventral median line in the middle third of the body. Testes subglobular, in oblique pair, directly in front of acetabulum. Ovary subglobular, some distance in front of the testes, median or submedian, much smaller than the testes. Receptaculum seminis globular or flask shaped, subequal to testes in size or notably smaller. Vitellaria lying for the most part in the anterior half of the body, in small, isolated follicles; paired yolk ducts proceeding backward from the hind end of the vitellaria. Cirrus pouch muscular, ovoid, conspicuous. The whole genital organs, with the exception of the vitellaria, lying for the most part in the posterior half of the body. Prepharynx very long and convoluted, terminated by a muscular pharynx; intestinal ceca short and wide, extending only for a short distance into the posterior half of body. Excretory vesicle elongated bottle-shaped, opening by its slender end near the hind end of body; paired excretory vessels proceeding forward from the antero-lateral corners of the vesicle.

Nicoll does not mention the cirrus glands, nor the prepharyngeal glands, but there is a suggestion of the presence of the former in his figure, while as to the latter there is no doubt in my mind that they will be detected on a closer examination.

Concerning the affinity of *G. tacharodes* Nicoll says that it undoubtedly belongs to the family Paramphistomatidae, but that it is difficult to include it in any of the subdivisions of that family, though most closely, albeit remotely related to the Pseudocladorchis of Daday. I pointed out in my former paper certain resemblances and differences between my parasite and the Paramphistsomatidae and concluded that they were such as to make it more a matter of convenience than of principle whether to refer it to that family or a new one, but that the erection of a new family was more desirable. A classification of the Amphistomatidae has been recently attempted by Stunkard, but it is an admittedly provisional one to be replaced by a more natural system when such is proposed. Now there is one aberrant genus of this family to which I ought to have paid more attention when discussing the affinity of my parasite, and that is Balanorchis (Fischoeder), the exact rank of which Stunkard leaves undecided. In this genus the testes lie in an asymmetrical pair directly in front of the acetabulum and posterior to the ovary, and what is of equal importance is the presence of a cirrus pouch, although its wall appears to be relatively quite thin. If this parasite lost its buccal pouches and perioral papillae, shortened its intestinal ceca and acquired a pharynx at the termination of its long esophagus a form closely similar to Gyliauchen would result. More distantly related to Gyliauchen appears to me to be the parasite described by Nicoll immediately before *G. tacharodes* under the name of *Opitholebes amplicoelus,* from the intestine of *Sphaeroides lunaris,* which the author considers to be not an amphistome but an anomalous distome. If this worm had a long, winding prepharynx and shorter intestinal ceca it would not be very unlike Gyliauchen, altho we do not know anything at present about its excretory system or its possession of a lymph system. Opistholebes appears to be related in turn to Nicoll's *Maculifer subaequiporus* also described in the same paper from the intestine of *Sphaeroides multistriatus.* This is a true distome and related, as Nicoll points out, to the Allocreadiidae; but if it had its acetabulum transferred to near the hind end of the body a worm would result, which is quite like Opistholebes except for the muscular ring of the prepharynx, the systematic significance of which it is difficult to evaluate at present. One more aberrant distome I may mention in this connection and that is the species described by Monticelli as *D. fractum* Rudolphi. It has a long, winding prepharynx surrounded in its entire course by numerous unicellular glands which the author calls "salivary," and which are evidently analogous to the prepharyngeal glands of *Gyliauchen papillatus;* in other respects, however, this distome stands quite remote.

These brief observations serve to show that Gyliauchen stands intermediate, when single characters are compared, between the Paramphistomatidae and some of the aberrant distomes. That it is sufficiently distinct from the former to justify the erection of a new family has been pointed out.

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